

ABSTRACT OF THE DISCLOSURE

There are many inventions described and illustrated herein. In one aspect, the present invention is directed to a technique of, and system for simulating, verifying, inspecting, characterizing, determining and/or evaluating the lithographic designs, techniques and/or systems, and/or individual functions performed thereby or components used therein. In one embodiment, the present invention is a system and method that accelerates lithography simulation, inspection, characterization and/or evaluation of the optical characteristics and/or properties, as well as the effects and/or interactions of lithographic systems and processing techniques. In this regard, in one embodiment, the present invention employs a lithography simulation system architecture, including application-specific hardware accelerators, and a processing technique to accelerate and facilitate verification, characterization and/or inspection of a mask design, for example, RET design, including detailed simulation and characterization of the entire lithography process to verify that the design achieves and/or provides the desired results on final wafer pattern.

15 The system includes: (1) general purpose-type computing device(s) to perform the case-based logic having branches and inter-dependency in the data handling and (2) accelerator subsystems to perform a majority of the computation intensive tasks.